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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,963	12/08/2003	Takehiro Niitsu	118009	9040
25944	7590	06/15/2005	EXAMINER	
OLIFF & BERRIDGE, PLC			DOAN, JENNIFER	
P.O. BOX 19928			ART UNIT	
ALEXANDRIA, VA 22320			PAPER NUMBER	

2874

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	Application No. 10/728,963	Applicant(s) NIITSU ET AL.	
	Examiner Jennifer Doan	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11 and 12 is/are allowed.
- 6) ☒ Claim(s) 1-3, 8-10 and 13-15 is/are rejected.
- 7) ☒ Claim(s) 4-7 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>120803</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The prior art documents submitted by applicant in the Information Disclosure Statement filed on 12/08/2003, have all been considered and made of record (note the attached copy of form PTO-1449).

### ***Drawings***

2. The drawings, filed on 02/27/2004, are accepted.

### ***Specification***

3. Applicants' cooperation is requested in correcting any errors of which applicants may become aware in the specification.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 8, 10, 13 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Deveau (U.S. Patent 5,790,731).

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With respect to claims 1 and 13, Deveau (figures 9 and 12) discloses a method and an apparatus of an optical wiring board comprising a support board (1); and an optical component including an optical waveguide (column 11, lines 44-47), which has a plate shape and has at least two end faces (see figure 9); and an optical fiber (11) connected to at least one of the end faces of the optical waveguide (column 11, lines 45-46) the optical component is placed optically, wherein the optical component is placed on the support board (see figure 12); and the optical component is sealed by resin (column 12, lines 8-18).

With respect to claim 2, Deveau (figures 9 and 12) discloses an optical wiring board, wherein the optical fiber includes a first optical fiber (11) and a second optical fiber (11); the first optical fiber (11) is connected to the one of the end faces of the second optical waveguide; and the second optical fiber (11) is connected to the other of the end faces of the optical waveguide (see figure 12).

With respect to claim 3, Deveau (figures 9 and 12) discloses an optical wiring board, wherein the optical fiber is a plurality of optical fibers (10), which are connected to the one of the end faces of the optical waveguide optically; and an optical signal is input to and output from the optical waveguide through the optical fibers (figure 12 and column 12, lines 18-20).

With respect to claim 8, Deveau (column 6, line 40- column 7, line 3) discloses an optical wiring board, wherein the resin is selected in accordance

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with difference in thermal expansion coefficient between the support board and the optical component.

With respect to claim 10, Deveau (column 6, line 38) discloses an optical wiring board, wherein the support board has flexibility.

With respect to claim 14, Deveau (column 6, line 40- column 7, line 3) discloses a method, wherein the temporarily securing is conducted using one of adhesive and a tape and the sealing is conducted over the one of the adhesive and the tape.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor

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and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deveau (as cited above).

With respect claims 9 and 15, Deveau (figure 9 and 12) discloses a method and an apparatus of an optical wiring board, wherein the temporarily securing includes filling a gap between an end face of the optical fiber and an end face of the optical waveguide with the adhesive.

Deveau does not explicitly disclose a refractive index of resin is smaller than at least one of that of the optical waveguide and that of a core material of the optical fiber. However, the refractive index difference between the resin, optical waveguide and optical fiber is considered to be obvious. Deveau disclose the materials of the resin, optical waveguide and fiber are all unlike; thus their refractive index would have to be different. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Deveau with the resin having a refractive index smaller than that of the optical waveguide and that of a core of the optical fiber for the purpose of obtaining high efficiency of optical signal transmission.

***Allowable Subject Matter***

9. Claims 4-7 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to disclose or reasonably suggest the optical wiring board, wherein the optical component includes a light diffusion member disposed at one of a position between the one of the end faces of the optical waveguide and the optical fiber and a position of the other of the end faces of the optical waveguide as recited in claims 4 and 16.

10. Claims 11 and 12 are allowed.

The prior art of record fails to disclose or reasonably suggest a optical wiring board comprising a positioning member having a through hole which the other end face of the optical fiber passes through and an optical bus system comprising a conversion circuit section for converting an electric signal into an optical signal and converting the optical signal into the electric signal; and an optical wiring board for transmitting and receiving the optical signal to and from the conversion circuit section, in combination with other limitations of claim 11 and 12.

***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Doan whose telephone number is

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(571) 272-2346. The examiner can normally be reached on Monday to Thursday from 6:00am to 3:30pm, second Friday off.

12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jennifer Doan

Patent Examiner

June 10, 2005